

Jenkins

Jenkins is a widely used open-source automation server that plays a crucial role in DevOps by facilitating Continuous Integration (CI) and Continuous Delivery (CD) pipelines, automating tasks like building, testing, and deploying software.

The screenshot displays the Jenkins web interface in a browser. The top navigation bar includes the Jenkins logo, a search icon, and user information (admin, log out). The breadcrumb trail shows 'Dashboard > simple-web-app > #30'. The main content area is divided into two columns. The left column contains a sidebar with various build-related actions: Status (selected), Changes, Console Output, Edit Build Information, Delete build '#30', Timings, Git Build Data, Pipeline Overview, Pipeline Console, Restart from Stage, Replay, Pipeline Steps, Workspaces, and Previous Build. The right column displays the build details for '#30 (Mar 18, 2025, 4:31:33 PM)'. It includes a green checkmark icon, a 'Add description' button, and a 'Keep this build forever' button. The build status is 'Started by user admin' and 'Started 16 hr ago'. The duration is 'Took 1 min 10 sec'. The build steps are listed: 'git' (Revision: c3ef8541297463f41dbec34b4f8a2e4cbbe31088, Repository: https://github.com/NavinkumarD/DevOps-1.git, refs/remotes/origin/main) and 'No changes.' The console output shows the build process, including extracting dependencies, copying war files, exporting layers, and naming the Docker image. The build finished successfully.

```
#5 extracting sha256:bbbc5226420a6c0ab4b1675bdec5409ebacd399b3d607180a288bd70a2b740a 0.0s done
#5 extracting sha256:4f4fb700ef54461cfa02571ae0db9a0dc1e0c0b5577484a6d75e68dc38e8acc1 0.0s done
#5 extracting sha256:865114aeca46bdfb59bc4a11acec4a5b01ad80ff860c249133238f6a7bb56ed 0.0s done
#5 extracting sha256:865114aeca46bdfb59bc4a11acec4a5b01ad80ff860c249133238f6a7bb56ed 0.7s done
#5 DONE 61.0s

#5 [1/2] FROM docker.io/library/tomcat:9@sha256:8299f3e2f559f5c683a38ff903b0caff1d789a2932686d30422f9dc99c130e
#5 extracting sha256:4f4fb700ef54461cfa02571ae0db9a0dc1e0c0b5577484a6d75e68dc38e8acc1 0.0s done
#5 DONE 61.0s

#6 [2/2] COPY **/*.war /usr/local/tomcat/webapps/maven-web-app.war
#6 DONE 0.1s

#7 exporting to image
#7 exporting layers 0.1s done
#7 exporting manifest sha256:0e8c618586a95de9b79e072f53010e307f470e5b435f5b1000ba2b5c086fcd9 0.0s done
#7 exporting config sha256:76b43a4e2c527d3afb9baf96dc03ae86a6e398ee72a143cd51a75203634e1dd5 0.0s done
#7 exporting attestation manifest sha256:82f885d954c9472242face42389a6418ed8e2ea700e4e6c72bc4d48b3d7dc456 0.0s done
#7 exporting manifest list sha256:76ee2b2893f72d959c102fe94a57f7d24d8319bc4f0c9180f1f52af06fde9 0.0s done
#7 naming to docker.io/22cs1258/mysimplewebapplication:latest done
#7 unpacking to docker.io/22cs1258/mysimplewebapplication:latest 0.0s done
#7 DONE 0.3s
[Pipeline] }
[Pipeline] // dir
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

Docker commands

`docker ps`

`docker run -itd -P <img_id>`

`docker images`

`docker ls`

`docker cp <s.f> <c.i>:<path>`

`docker exec -it containerid bin/bash`

Docker compose commands

`sudo apt install fontconfig openjdk-17-jre`

`java -version`

`sudo service Jenkins restart`

`sudo service Jenkins status`

`sudo apt install docker.io -y`

`sudo service docker restart`

`sudo service docker status`

`sudo usermod -aG docker $USER`

`docker images`

`docker ps`

`sudo chmod 666 /var/run/docker.sock`

`curl -LO https://dl.k8s.io/release/v1.32.0/bin/linux/amd64/kubectl`

`sudo install -o root -g root -m 0755 kubectl /usr/local/bin/kubectl`

`chmod +x kubectl`

`mkdir -p ~/.local/bin`

`mv ./kubectl ~/.local/bin/kubectl`

`kubectl version --client`

`curl -LO https://github.com/kubernetes/minikube/releases/latest/download/minikube-linux-amd64`

`sudo install minikube-linux-amd64 /usr/local/bin/minikube && rm minikube-linux-amd64`

`minikube start`

`minikube status`

`kubectl get pod`

`kubectl get deploy`

```
kubectl get replica
```

```
kubectl get pod -o widedocker exec -it david-db-1 /bin/bash
```

```
mysql -u root -p
```

```
sudo apt install docker-compose -y
```

```
sudo curl -L "https://github.com/docker/compose/releases/latest/download/docker-compose-$(uname -s)-$(uname -m)" -o /usr/local/bin/docker-compose
```

```
navin@ITP-CC16-42:~$ sudo apt update
[sudo] password for navin:
Hit:1 https://pkg.jenkins.io/debian binary/ InRelease
Hit:2 https://pkg.jenkins.io/debian binary/ Release
Get:4 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Hit:5 http://archive.ubuntu.com/ubuntu noble InRelease
Get:6 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:7 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [671 kB]
Get:8 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [130 kB]
Get:9 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [8968 B]
Get:10 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Packages [820 kB]
Get:11 http://archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:12 http://security.ubuntu.com/ubuntu noble-updates/main amd64 Packages [177 kB]
Get:13 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [52.0 kB]
Get:14 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Components [208 B]
Get:15 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Components [208 B]
Get:16 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [177 kB]
Get:17 http://archive.ubuntu.com/ubuntu noble-updates/main Translation-en [130 kB]
Get:18 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [151 kB]
Get:19 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [1040 kB]
Get:20 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [364 kB]
Get:21 http://archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]
Get:22 http://archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [940 B]
Get:16 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [922 kB]
Get:23 http://archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [208 B]
Get:24 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [20.0 kB]
Get:25 http://archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [216 B]
Get:26 http://archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Get:17 http://archive.ubuntu.com/ubuntu noble-updates/main Translation-en [209 kB]
Fetched 4946 kB in 65 (878 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
57 packages can be upgraded. Run 'apt list --upgradable' to see them.
navin@ITP-CC16-42:~$ java --version
openjdk 17.0.14 2025-01-21
OpenJDK Runtime Environment (build 17.0.14+7-Ubuntu-124.04)
OpenJDK 64-Bit Server VM (build 17.0.14+7-Ubuntu-124.04, mixed mode, sharing)
navin@ITP-CC16-42:~$ git version
git version 2.43.0
navin@ITP-CC16-42:~$ mvn -version
Apache Maven 3.8.7
Maven home: /usr/share/maven
Java version: 17.0.14, vendor: Ubuntu, runtime: /usr/lib/jvm/java-17-openjdk-amd64
Default locale: en, platform encoding: UTF-8
OS name: "linux", version: "5.15.167.4-microsoft-standard-WSL2", arch: "amd64", family: "unix"
navin@ITP-CC16-42:~$ kubectl version --client
Client Version: v1.32.3
Kustomize Version: v5.5.0
navin@ITP-CC16-42:~$ minikube start --driver=docker
🐳 minikube v1.35.0 on Ubuntu 24.04 (amd64)

navin@ITP-CC16-42:~$
Error from server (NotFound): pods "pod" not found
navin@ITP-CC16-42:~$ kubectl get deploy
ctl get replica
kubectl get pod -o widedocker "kubectl" not found, did you mean:
  command 'kubectl' from snap kubectl (1.22.0)
See "snap info <snapname>" for additional versions.
navin@ITP-CC16-42:~$ kubectl get replicas
Error: the server doesn't have a resource type "replica"
navin@ITP-CC16-42:~$ kubectl get pod -o wide
No resources found in default namespace.
navin@ITP-CC16-42:~$ sudo apt install docker-compose -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  python3-compose python3-docker python3-docopt python3-dotenv python3-packaging python3-texttable python3-websocket
The following NEW packages will be installed:
  docker-compose python3-compose python3-docker python3-docopt python3-dotenv python3-packaging python3-texttable python3-websocket
0 upgraded, 8 newly installed, 0 to remove and 57 not upgraded.
Need to get 338 kB of archives.
After this operation, 1779 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu noble/universe amd64 python3-websocket all 1.7.0-1 [30.1 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble/main amd64 python3-packaging all 24.0-1 [41.1 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 python3-docker all 5.0.3-1ubuntu1.1 [89.1 kB]
Get:4 http://archive.ubuntu.com/ubuntu noble/universe amd64 python3-docopt all 0.4.1-5 [11.4 kB]
Get:5 http://archive.ubuntu.com/ubuntu noble/universe amd64 python3-docopt all 0.6.2-6 [26.1 kB]
Get:6 http://archive.ubuntu.com/ubuntu noble/universe amd64 python3-dotenv all 1.0.1-1 [22.3 kB]
Get:7 http://archive.ubuntu.com/ubuntu noble/universe amd64 python3-texttable all 1.6.7-1 [11.0 kB]
Get:8 http://archive.ubuntu.com/ubuntu noble/universe amd64 python3-compose all 1.29.2-6ubuntu1 [86.4 kB]
Get:9 http://archive.ubuntu.com/ubuntu noble/universe amd64 docker-compose all 1.29.2-6ubuntu1 [14.0 kB]
Fetched 338 kB in 2s (184 kB/s)
Selecting previously unselected package python3-websocket.
(Reading database ... 43999 files and directories currently installed.)
Preparing to unpack .../0-python3-websocket_1.7.0-1_all.deb ...
Unpacking python3-websocket (1.7.0-1) ...
Selecting previously unselected package python3-packaging.
Preparing to unpack .../1-python3-packaging_24.0-1_all.deb ...
Unpacking python3-packaging (24.0-1) ...
Selecting previously unselected package python3-docker.
Preparing to unpack .../2-python3-docker_5.0.3-1ubuntu1.1_all.deb ...
Unpacking python3-docker (5.0.3-1ubuntu1.1) ...
Selecting previously unselected package python3-docoptpy.
Preparing to unpack .../3-python3-docoptpy_0.4.1-5_all.deb ...
Unpacking python3-docoptpy (0.4.1-5) ...
Selecting previously unselected package python3-docopt.
Preparing to unpack .../4-python3-docopt_0.6.2-6_all.deb ...
Unpacking python3-docopt (0.6.2-6) ...
Selecting previously unselected package python3-dotenv.
Preparing to unpack .../5-python3-dotenv_1.0.1-1_all.deb ...
Unpacking python3-dotenv (1.0.1-1) ...
Selecting previously unselected package python3-texttable.
Preparing to unpack .../6-python3-texttable_1.6.7-1_all.deb ...
Unpacking python3-texttable (1.6.7-1) ...
Selecting previously unselected package python3-compose.
Preparing to unpack .../7-python3-compose_1.29.2-6ubuntu1_all.deb ...
Unpacking python3-compose (1.29.2-6ubuntu1) ...
Selecting previously unselected package docker-compose.
Preparing to unpack .../8-docker-compose_1.29.2-6ubuntu1_all.deb ...
Unpacking docker-compose (1.29.2-6ubuntu1) ...
Setting up python3-dotenv (1.0.1-1) ...
Setting up python3-texttable (1.6.7-1) ...
Setting up python3-docopt (0.6.2-6) ...
Setting up python3-packaging (24.0-1) ...
```